

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	3362	EN ADJ RAGE	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2005/10/11 11:05
L2	185210	antibody	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2005/10/11 11:05
L3	19	L1 and L2	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2005/10/11 11:05
S1	1	"6555340".pn.	USPAT	OR	OFF	2005/10/11 11:04
S2	1	"6391300".pn.	USPAT	OR	OFF	2005/10/07 17:21
S3	1	"6465422".pn.	USPAT	OR	OFF	2005/10/07 17:23
S4	1	"6555651".pn.	USPAT	OR	OFF	2005/10/07 17:27
S5	1	"6790443".pn.	USPAT	OR	OFF	2005/10/07 17:46
S6	1	"6677299".pn.	USPAT	OR	OFF	2005/10/07 17:48
S7	1	"6670136".pn.	USPAT	OR	OFF	2005/10/07 17:50
S8	1	"6563015".pn.	USPAT	OR	OFF	2005/10/07 17:51
S9	1	"6825164".pn.	USPAT	OR	OFF	2005/10/07 17:52
S10	1	"5839443".pn.	USPAT	OR	OFF	2005/10/07 17:52
S11	73	RAGE AND (SCHMIDT.IN. OR STERN. IN.)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2005/10/07 17:54

10/665,867
STN Results

(FILE 'HOME' ENTERED AT 11:09:55 ON 11 OCT 2005)

FILE 'BIOSIS, MEDLINE, CAPLUS, SCISEARCH, EMBASE' ENTERED AT
11:10:40 ON

11 OCT 2005

L1 6803 S RAGE OR EN-RAGE

L2 1827257 S ANTIBODY

L3 335 S L1 AND L2

L4 182 DUP REM L3 (153 DUPLICATES REMOVED)

10/665,867
Sequence search

SEQ ID NO: 2

SUMMARIES

Result		Query			DB	ID	Description
No.	Score	Match	Length				
1	257	99.2	50	3	AAW03563	AAW03563	Human EN-
2	230	88.8	90	3	AAW03563	AAW03563	Bovine CA
3	230	88.8	90	3	AAW03563	AAW03563	Bovine co
4	230	88.8	92	2	AAW03563	AAW03563	Calcium b
5	206	79.5	91	2	AAW01826	AAW01826	Component
6	206	79.5	91	2	AAW93819	AAW93819	Angiotrop
7	189	73.0	91	4	AAB31909	AAB31909	Amino aci
8	189	73.0	92	2	AAW03564	AAW03564	Calcium b
9	189	73.0	92	2	AAW24137	AAW24137	Human che
10	189	73.0	92	3	AAB45542	AAB45542	Human S10
11	189	73.0	92	4	AAB31911	AAB31911	Amino aci
12	189	73.0	92	4	AAB31907	AAB31907	Amino aci
13	189	73.0	92	4	AAB31908	AAB31908	Amino aci
14	189	73.0	92	7	ADA93649	ADA93649	Human cal
15	189	73.0	92	8	ADN04192	ADN04192	Antipsori

RESULT 4

AAW03563

ID AAW03563 standard; protein; 92 AA.

XX

AC AAW03563;

XX

DT 01-MAY-1997 (first entry)

XX

DE Calcium binding protein CAAF1.

XX

KW Calcium binding protein; bovine; amniotic fluid; S100 protein family;
KW intracellular signal transduction; squamous epithelial cell; neutrophil;
KW macrophage; cancer; cancerous lesion; inflammation; neoplasia; cervix;
KW squamous cell carcinoma; skin; oesophagus; CAAF1; lung; blood disease.

XX

OS Bos taurus.

XX

PN EP731166-A2.

XX

PD 11-SEP-1996.

XX

PF 04-DEC-1995; 95EP-00119045.

XX

PR 06-MAR-1995; 95JP-00045564.

PR 06-MAR-1995; 95JP-00070468.

XX

PA (TOFU) TONEN CORP.

PA (HITO/) HITOMI J.

XX

PI Hitomi J, Yamaguchi K, Yamamura T, Kimura T;

XX

DR WPI; 1996-403989/41.

DR N-PSDB; AAT39345.

XX

PT New human or bovine calcium binding protein and related nucleic acid - is
PT a marker for inflammation, neoplasia, skin and blood diseases.

XX

PS Claim 1; Page 21; 36pp; English.

XX

CC This sequence represents the CAAF1 calcium-binding protein isolated from
CC bovine amniotic fluid. CAAF1 belongs to the S100 protein family, which
CC includes calcyclin, MRP8, and MRP14. Intracellular calcium ion
CC concentration is one of the key factors for intracellular signal
CC transduction. The calcium signals are transduced by various calcium-

Query Match 79.5%; Score 206; DB 2; Length 91;
Best Local Similarity 82.0%; Pred. No. 7e-21;
Matches 41: Conservative 3: Mismatches 6: Indels 0: Gaps 0;

Qy 1 TKLEDHLEGIINIGHQYSVRVGHFDTLNKYELKQLGTELKPTLTQNXXKDQ 50
| | | | | | | | | | | | | | : | : | | | | | | | | : | |
Db 1 TKLEDHLEGIINIIFHOYSVRILGHYDTLIKRELKOLITKELPNTLKNTKDQ 50

RESULT 9

AAW24137

ID AAW24137 standard; protein; 92 AA.

xx

AC AAW24137;

XX

DT 28-JAN-1998 (first entry)

XX

DE Human chemotactic cytokine I.

XX

KW chemotactic cytokine; tumour; autoimmune disease; antagonist; agonist.

XX

OS Homo sapiens.

XX

PN WO9723640-A1.

XX

PD 03-JUL-1997.

XX

PF 26-DEC-1995: 95WO-US016871.

XX

PR 26-DEC-1995: 95WO-US016871.

XX

PA (HUMA-) HUMAN GENOME SCI INC.

XX

PI Ni J, Yu G, Alfonso P, Gentz R, Su JY;

XX

DR WPI; 1997-351075/32.

DR

XX

PT DNA encoding chemotactic cytokine I - used to treat, e.g. tumours,
PT chronic infection, leukaemia, etc.

XX

PS Claim 12; Page 48-49; 64pp; English.

XX

CC This is a human chemotactic cytokine I polypeptide. The encoding
CC polynucleotide, along with a vector and a host cell can be used for the
CC recombinant production of the chemotactic cytokine. Cytokine agonists and
CC antagonists can be used for the treatment of a patient requiring a
CC chemotactic cytokine I and for the treatment of a patient requiring the
CC inhibition of a chemotactic cytokine I polypeptide, respectively. The
CC chemotactic cytokine is used to treat tumours, chronic infection,
CC leukaemia and T-cell mediated autoimmune diseases

XX

S0 Sequence 92 AA:

Query Match 73.0%; Score 189; DB 2; Length 92;
Best Local Similarity 74.0%; Pred. No. 1.8e-18;
Matches 37; Conservative 6; Mismatches 7; Indels 0; Gaps 0;

Qy 1 TKLEDHLEGIINIGHQYSVRVGHFDTLNKYELKQLGTELKPTLQNXKDK 50
|||::|||::| ||||| |||||::| ||||| ||| |::| |||
Db 2 TKLEEHLEGIVNIFHOYSVRKGHFDTLKSGELKOLLTKELANTIKNIKDK 51

SUMMARIES

Result	Query
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No.	Score	Match	Length	DB	ID	Description
1	257	99.2	50	4	US-09-263-312-2	Sequence 2, Appli
2	257	99.2	50	4	US-09-826-589-2	Sequence 2, Appli
3	230	88.8	51	2	US-08-568-310D-2	Sequence 2, Appli
4	230	88.8	51	3	US-09-270-455-2	Sequence 2, Appli
5	230	88.8	90	4	US-09-263-312-3	Sequence 3, Appli
6	230	88.8	90	4	US-09-826-589-3	Sequence 3, Appli
7	230	88.8	90	4	US-09-826-589-4	Sequence 4, Appli
8	230	88.8	92	2	US-08-568-310D-19	Sequence 19, Appl
9	230	88.8	92	3	US-09-270-455-19	Sequence 19, Appl
10	206	79.5	91	3	US-08-794-000-2	Sequence 2, Appli
11	206	79.5	91	4	US-09-646-651C-1	Sequence 1, Appli
12	189	73.0	92	2	US-08-568-310D-20	Sequence 20, Appl
13	189	73.0	92	3	US-09-270-455-20	Sequence 20, Appl
14	114	44.0	113	2	US-08-918-727-7	Sequence 7, Appli
15	114	44.0	113	3	US-09-205-680A-7	Sequence 7, Appli

RESULT 3

US-08-568-310D-2

; Sequence 2, Application US/08568310D

; Patent No. 5976832

; GENERAL INFORMATION:

; APPLICANT: HITOMI, JIRO

; APPLICANT: YAMAGUCHI, KEN

; APPLICANT: YAMAMURA, TOKUJIRO

; APPLICANT: KIMURA, TATSUJI

; TITLE OF INVENTION: NOVEL CALCIUM-BINDING PROTEINS

; NUMBER OF SEQUENCES: 20

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: WYATT, GERBER, MELLER & O'ROURKE

; STREET: 99 PARK AVENUE

; STREET: 6th FLOOR

; CITY: NEW YORK CITY

; STATE: NEW YORK

; COUNTRY: USA

; ZIP: 10016

; COMPUTER READABLE FORM:

; MEDIUM TYPE: DISKETTE, 3.50 INCH, 720 Kb

; MEDIUM TYPE: STORAGE

; COMPUTER: IBM-PC COMPATIBLE

; OPERATING SYSTEM: PC-DOS 6.2

; SOFTWARE: WORDPERFECT 6.1

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/08/568,310D

; FILING DATE: DECEMBER 6, 1995

; CLASSIFICATION: 435

; PRIOR APPLICATION DATA:

; APPLICATION NUMBER: 7-70468 and 7-45564 (both Japan)

; FILING DATE: 3/6/95 and 3/6/95, respectively

; ATTORNEY/AGENT INFORMATION:

; NAME: KLEIN, MILTON

; REGISTRATION NUMBER: 27101

; REFERENCE/DOCKET NUMBER: 3316

; TELECOMMUNICATION INFORMATION:

; TELEPHONE: (212) 953-3350

; TELEFAX: (212) 953-3352

; INFORMATION FOR SEQ ID NO: 2:

; SEQUENCE CHARACTERISTICS:

; LENGTH: 51

; TYPE: amino acid

; STRANDEDNESS:

; TOPOLOGY: linear

; PUBLICATION INFORMATION:

; RELEVANT RESIDUES IN SEQ ID NO: 2:

; RELEVANT RESIDUES IN SEQ ID NO: FROM 1 TO 51

US-08-568-310D-2

Query Match

88.8%; Score 230; DB 2; Length 51;

Best Local Similarity 92.0%; Pred. No. 2e-26;
Matches 46; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 TKLEDHLEGIINIGHQYSVRVGHFDTLNKYELKQLGTEKLPKTLQNKKDQ 50
|||||
Db 1 TKLEDHLEGIINIFHQYSVRVGHFDTLNKRELKQLITKELPKTLQNTKDQ 50

RESULT 10

US-08-794-000-2

; Sequence 2, Application US/08794000
; Patent No. 6087123
; GENERAL INFORMATION:
; APPLICANT:
; TITLE OF INVENTION: Metal-Containing Ribonucleotide Polypeptides
; NUMBER OF SEQUENCES: 4
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30 (EPO)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/794,000
; FILING DATE:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/DE96/01337
; FILING DATE: 17-JUL-1996
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: DE 195 25 992.0
; FILING DATE: 17-JUL-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: DE 195 30 500.0
; FILING DATE: 18-AUG-1995
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 91 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-08-794-000-2

Query Match 79.5%; Score 206; DB 3; Length 91;
Best Local Similarity 82.0%; Pred. No. 1.4e-22;
Matches 41; Conservative 3; Mismatches 6; Indels 0; Gaps 0;

QY 1 TKLEDHLEGIINIGHQYSVRVGHFDTLNKYELKQLGTEKLPKTLQNKKDQ 50
|||||
Db 1 TKLEDHLEGIINIFHQYSVRLGHYDTLIKRELKQLITKELPNTLKNTKDQ 50

RESULT 14

US-08-918-727-7

; Sequence 7, Application US/08918727
; Patent No. 5849528
; GENERAL INFORMATION:
; APPLICANT: Hillman, Jennifer L.
; APPLICANT: Bandman, Olga
; APPLICANT: Corley, Neil C.
; APPLICANT: Lal, Preeti
; APPLICANT: Shah, Purvi
; TITLE OF INVENTION: HUMAN S100 PROTEINS
; NUMBER OF SEQUENCES: 7
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Incyte Pharmaceuticals, Inc.
; STREET: 3174 Porter Drive
; CITY: Palo Alto
; STATE: CA
; COUNTRY: USA
; ZIP: 94304

```

; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: DOS
; SOFTWARE: FastSEQ for Windows Version 2.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/918,727
; FILING DATE: Herewith
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER:
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Billings, Lucy J.
; REGISTRATION NUMBER: 36,749
; REFERENCE/DOCKET NUMBER: PF-0373 US
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 650-855-0555
; TELEFAX: 650-845-4166
; TELEX:
; INFORMATION FOR SEQ ID NO: 7:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 113 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; IMMEDIATE SOURCE:
; LIBRARY: GenBank
; CLONE: 488157
US-08-918-727-7

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Query Match          44.0%; Score 114; DB 2; Length 113;
Best Local Similarity 47.9%; Pred. No. 5.4e-09;
Matches 23; Conservative 9; Mismatches 16; Indels 0; Gaps 0;

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Qy      1 TKLEDHLEGIINIGHQYSVRVGHFDTLNKYELKQLGKLPKTLQNKK 48
      ::|| : |||: |||| : || ||||| | |:| |:| |:|
Db      7 SQLERSISTIINVFHQYSRKYGHPDTLNKAEFKEMVKNKDLPNFLKREK 54

```

SUMMARIES

Result No.	Score	Query		DB	ID	Description
		Match	Length			
1	257	99.2	50	9	US-09-826-589-2	Sequence 2, Appli
2	257	99.2	50	9	US-09-872-185B-9	Sequence 9, Appli
3	257	99.2	50	15	US-10-666-513-2	Sequence 2, Appli
4	257	99.2	50	16	US-10-665-867-2	Sequence 2, Appli
5	257	99.2	50	18	US-10-990-310-9	Sequence 9, Appli
6	230	88.8	90	9	US-09-826-589-3	Sequence 3, Appli
7	230	88.8	90	9	US-09-826-589-4	Sequence 4, Appli
8	230	88.8	90	9	US-09-872-185B-11	Sequence 11, Appl
9	230	88.8	90	9	US-09-872-185B-12	Sequence 12, Appl
10	230	88.8	90	15	US-10-666-513-3	Sequence 3, Appli
11	230	88.8	90	16	US-10-665-867-3	Sequence 3, Appli
12	230	88.8	90	16	US-10-665-867-4	Sequence 4, Appli
13	230	88.8	90	18	US-10-990-310-11	Sequence 11, Appl
14	230	88.8	90	18	US-10-990-310-12	Sequence 12, Appl
15	206	79.5	91	17	US-10-994-821-9	Sequence 9, Appli

SUMMARIES

Result No.	Score	Query		DB	ID	Description
		Match	Length			
1	230	88.8	70	2	Q9TR16	Q9tr16 bos taurus
2	230	88.8	91	1	S112_BOVIN	P79105 bos taurus

3	206	79.5	91	1	S112_PIG	P80310	sus scrofa
4	189	73.0	91	1	S112_HUMAN	P80511	homo sapien
5	136	52.5	81	1	S112_RABIT	O77791	oryctolagus
6	133	51.4	122	1	S109_BOVIN	P28783	bos taurus
7	114	44.0	111	2	Q761U7	Q761u7	rattus norv
8	114	44.0	112	1	S109_RAT	P50116	rattus norv
9	110	42.5	114	1	S109_HUMAN	P06702	homo sapien
10	98	37.8	119	2	Q6PRV2	Q6prv2	coturnix co
11	94	36.3	118	1	S109_RABIT	P50117	oryctolagus
12	94	36.3	119	1	M126_CHICK	P28318	gallus gall
13	91	35.1	100	2	Q7ZVA4	Q7zva4	brachydanio
14	90	34.7	101	2	O93395	O93395	salvelinus
15	89	34.4	101	1	S104_MOUSE	P07091	mus musculus

RESULT 1

Q9TR16

ID Q9TR16 PRELIMINARY; PRT; 70 AA.
AC Q9TR16;
DT 01-MAY-2000 (TrEMBLrel. 13, Created)
DT 01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
DT 01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
DE CORNEA-associated antigen, CO-AG=CALGRANULIN C homolog.
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovinae; Bos.
OX NCBI_TaxID=9913;
RN [1]
RP SEQUENCE.
RX MEDLINE=96181454; PubMed=8603881;
RA Liu S.H., Gottsch J.D.;
RT "Amino acid sequence of an immunogenic corneal stromal protein."
RL Invest. Ophthalmol. Vis. Sci. 37:944-948(1996).
CC -!- SIMILARITY: Belongs to the S-100 family.
DR HSSP; P80511; 1E8A.
DR GO; GO:0005509; F:calcium ion binding; IEA.
DR InterPro; IPR001751; CaBP_S100.
DR InterPro; IPR002048; EF-hand.
DR InterPro; IPR010983; EF_Hand_like.
DR Pfam; PF01023; S_100; 1.
DR ProDom; PD003407; CaBP_S100; 1.
SQ SEQUENCE 70 AA; 8134 MW; 7D52BEA97A4D53A5 CRC64;

Query Match 88.8%; Score 230; DB 2; Length 70;
Best Local Similarity 92.0%; Pred. No. 2.5e-21;
Matches 46; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

Qy	1	TKLEDHLEGIINIGHQYSVRVGHFDTLNKYELKQLGTELPKTLQNKKDQ	50
Db	1	TKLEDHLEGIINIFHQYSVRVGHFDTLNKRELKQLITKELPKTLQNTKDQ	50

RESULT 2

S112_BOVIN

ID S112_BOVIN STANDARD; PRT; 91 AA.
AC P79105;
DT 01-NOV-1997 (Rel. 35, Created)
DT 01-NOV-1997 (Rel. 35, Last sequence update)
DT 05-JUL-2004 (Rel. 44, Last annotation update)
DE Calgranulin C (CAGC) (Calcium-binding protein in amniotic fluid 1)
DE (CAAF1) (RAGE binding protein).
GN Name=S100A12; Synonyms=CAAF1;
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovinae; Bos.
OX NCBI_TaxID=9913;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Oesophagus;

RX MEDLINE=96298783; PubMed=8718672;
 RA Hitomi J., Yamaguchi K., Kikuchi Y., Kimura T., Maruyama K.,
 RA Nagasaki K.;
 RT "A novel calcium-binding protein in amniotic fluid, CAAF1: its
 RT molecular cloning and tissue distribution.";
 RL J. Cell Sci. 109:805-815(1996).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Lung;
 RX MEDLINE=99325504; PubMed=10399917; DOI=10.1016/S0092-8674(00)80801-6;
 RA Hofmann M.A., Drury S., Fu C., Qu W., Taguchi A., Lu Y., Avila C.,
 RA Kambham N., Bierhaus A., Nawroth P., Neurath M.F., Slattey T.,
 RA Beach D., McClary J., Nagashima M., Morser J., Stern D., Schmidt A.M.;
 RT "RAGE mediates a novel proinflammatory axis: a central cell surface
 RT receptor for S100/calgranulin polypeptides.";
 RL Cell 97:889-901(1999).
 CC -!- SIMILARITY: Belongs to the S-100 family.
 CC -!- SIMILARITY: Contains 2 EF-hand calcium-binding domains.
 CC -----
 CC This SWISS-PROT entry is copyright. It is produced through a collaboration
 CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
 CC the European Bioinformatics Institute. There are no restrictions on its
 CC use by non-profit institutions as long as its content is in no way
 CC modified and this statement is not removed. Usage by and for commercial
 CC entities requires a license agreement (See <http://www.isb-sib.ch/announce/>
 CC or send an email to license@isb-sib.ch).
 CC -----
 DR EMBL; D49548; BAA08496.1; -.
 DR EMBL; AF011757; AAB65423.1; -.
 DR HSSP; P80511; 1GQM.
 DR InterPro; IPR001751; CaBP_S100.
 DR InterPro; IPR002048; EF-hand.
 DR InterPro; IPR010983; EF_Hand_like.
 DR Pfam; PF00036; efhand; 1.
 DR Pfam; PF01023; S_100; 1.
 DR ProDom; PD003407; CaBP_S100; 1.
 DR PROSITE; PS00018; EF_HAND; 1.
 DR PROSITE; PS00303; S100_CABP; 1.
 KW Calcium-binding; Metal-binding; Zinc.
 FT INIT_MET 0 0 By similarity.
 FT CA_BIND 18 31 EF-hand 1; low affinity (By similarity).
 FT CA_BIND 61 72 EF-hand 2; high affinity (By similarity).
 SQ SEQUENCE 91 AA; 10554 MW; 66FBC3C1B0354482 CRC64;

Query Match 88.8%; Score 230; DB 1; Length 91;
 Best Local Similarity 92.0%; Pred. NO. 3.3e-21;
 Matches 46; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 TKLEDHLEGIINIGHQYSVRVGHFDTLNKEYELKQLGTEKLPKTLQNXXDQ 50
 |||||
 Db 1 TKLEDHLEGIINIFHQYSVRVGHFDTLNRELKQLITKLPKTLQNTKDQ 50

RESULT 3

S112_PIG

ID S112_PIG STANDARD; PRT; 91 AA.
 AC P80310;
 DT 01-FEB-1994 (Rel. 28, Created)
 DT 01-FEB-1994 (Rel. 28, Last sequence update)
 DT 05-JUL-2004 (Rel. 44, Last annotation update)
 DE Calgranulin C (CAGC).
 GN Name=S100A12;
 OS Sus scrofa (Pig).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
 OX NCBI_TaxID=9823;
 RN [1]
 RP SEQUENCE.
 RC TISSUE=Granulocyte;
 RX MEDLINE=95050708; PubMed=7961855;
 RA Dell'Angelica E.C., Schleicher C.H., Santome J.A.;

RT "Primary structure and binding properties of calgranulin C, a novel
 RT S100-like calcium-binding protein from pig granulocytes.";
 RL J. Biol. Chem. 269:28929-28936(1994).
 CC -!- TISSUE SPECIFICITY: Found essentially in granulocytes with small
 CC amounts found in lymphocytes.
 CC -!- MISCELLANEOUS: In the absence of zinc binds one calcium ion per
 CC molecule, in the presence of zinc binds two calcium ions per
 CC molecule.
 CC -!- SIMILARITY: Belongs to the S-100 family.
 CC -!- SIMILARITY: Contains 2 EF-hand calcium-binding domains.
 DR PIR; A55406; A55406.
 DR HSSP; P80511; 1E8A.
 DR InterPro; IPR001751; CaBP_S100.
 DR InterPro; IPR002048; EF-hand.
 DR InterPro; IPR010983; EF_Hand_like.
 DR Pfam; PF00036; efhand; 1.
 DR Pfam; PF01023; S_100; 1.
 DR ProDom; PD003407; CaBP_S100; 1.
 DR PROSITE; PS00018; EF_HAND; FALSE_NEG.
 DR PROSITE; PS00303; S100_CABP; 1.
 KW Calcium-binding; Direct protein sequencing; Metal-binding; Zinc.
 FT CA_BIND 18 31 EF-hand 1; low affinity (By similarity).
 FT CA_BIND 61 72 EF-hand 2; high affinity (By similarity).
 SQ SEQUENCE 91 AA; 10614 MW; B4204461432D7FCE CRC64;

Query Match 79.5%; Score 206; DB 1; Length 91;
 Best Local Similarity 82.0%; Pred. No. 3.6e-18;
 Matches 41; Conservative 3; Mismatches 6; Indels 0; Gaps 0;

Qy 1 TKLEDHLEGIINIGHQYSVRVGHFDTLNKYELKQLGTEPKTLQNXKDQ 50
 ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
 Db 1 TKLEDHLEGIINIFHQYSVRLGHYDTLIKRELKQLITKELPNTLKNTKDQ 50

RESULT 4
 S112_HUMAN
 ID S112_HUMAN STANDARD; PRT; 91 AA.
 AC P80511; P83219;
 DT 01-OCT-1996 (Rel. 34, Created)
 DT 01-OCT-1996 (Rel. 34, Last sequence update)
 DT 25-OCT-2004 (Rel. 45, Last annotation update)
 DE Calgranulin C (CAGC) (CGRP) (Neutrophil S100 protein) (Calcium-binding
 DE protein in amniotic fluid 1) (CAAF1) (p6) [Contains: Calcitermin].
 GN Name=S100A12;
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
 OX NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=97138564; PubMed=8985590; DOI=10.1016/S0143-4160(96)90087-1;
 RA Wicki R., Marenholz I., Mischke D., Schaefer B.W., Heizmann C.W.;
 RT "Characterization of the human S100A12 (calgranulin C, p6, CAAF1,
 RT CGRP) gene, a new member of the S100 gene cluster on chromosome
 RT 1q21.";
 RL Cell Calcium 20:459-464(1996).
 RN [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=96192053; PubMed=8619860; DOI=10.1006/bbrc.1996.0600;
 RA Yamamura T., Hitomi J., Nagasaki K., Suzuki M., Takahashi E.,
 RA Saito S., Tsukada T., Yamaguchi K.;
 RT "Human CAAF1 gene -- molecular cloning, gene structure, and chromosome
 RT mapping.";
 RL Biochem. Biophys. Res. Commun. 221:356-360(1996).
 RN [3]
 RP SEQUENCE.
 RX MEDLINE=96192069; PubMed=8619876; DOI=10.1006/bbrc.1996.0616;
 RA Marti T., Erttmann K.D., Gallin M.Y.;
 RT "Host-parasite interaction in human onchocerciasis: identification and
 RT sequence analysis of a novel human calgranulin.";
 RL Biochem. Biophys. Res. Commun. 221:454-458(1996).

RN [4]
 RP SEQUENCE.
 RC TISSUE=Neutrophils;
 RX MEDLINE=96332419; PubMed=8769108; DOI=10.1006/bbrc.1996.1144;
 RA Ilg E.C., Troxler H., Buergisser D.M., Kuster T., Markert M.,
 RA Guignard F., Hunziker P., Birchler N., Heizmann C.W.;
 RT "Amino acid sequence determination of human S100A12 (P6, calgranulin
 RT C, CGRP, CAAF1) by tandem mass spectrometry.";
 RL Biochem. Biophys. Res. Commun. 225:146-150(1996).
 RN [5]
 RP SEQUENCE OF 1-20.
 RX MEDLINE=95351965; PubMed=7626002;
 RA Guignard F., Mauel J., Markert M.;
 RT "Identification and characterization of a novel human neutrophil
 RT protein related to the S100 family.";
 RL Biochem. J. 309:395-401(1995).
 RN [6]
 RP SEQUENCE OF 77-91, ANTIMICROBIAL ACTIVITY, AND MASS SPECTROMETRY.
 RC TISSUE=Nasal mucus;
 RX MEDLINE=21413725; PubMed=11522286; DOI=10.1016/S0014-5793(01)02731-4;
 RA Cole A.M., Kim Y.-H., Tahk S., Hong T., Weis P., Waring A.J., Ganz T.;
 RT "Calcitermin, a novel antimicrobial peptide isolated from human airway
 RT secretions.";
 RL FEBS Lett. 504:5-10(2001).
 RN [7]
 RP X-RAY CRYSTALLOGRAPHY (1.95 ANGSTROMS).
 RX MEDLINE=21065388; PubMed=11134923; DOI=10.1107/S090744490001458X;
 RA Moroz O.V., Antson A.A., Murshudov G.N., Maitland N.J., Dodson G.G.,
 RA Wilson K.S., Skibshoj I., Lukanidin E.M., Bronstein I.B.;
 RT "The three-dimensional structure of human S100A12.";
 RL Acta Crystallogr. D 57:20-29(2001).
 CC -!- FUNCTION: Calcitermin possesses antifungal activity against
 CC C.albicans and is also active against E.coli and P.aeruginosa but
 CC not L.monocytogenes and S.aureus.
 CC -!- SUBUNIT: Homodimer.
 CC -!- TISSUE SPECIFICITY: Monocytes and lymphocytes.
 CC -!- MASS SPECTROMETRY: MW=10444; METHOD=Electrospray; RANGE=1-91;
 CC NOTE=Ref.6.
 CC -!- MASS SPECTROMETRY: MW=1688.9; METHOD=MALDI; RANGE=77-91;
 CC NOTE=Ref.6.
 CC -!- SIMILARITY: Belongs to the S-100 family.
 CC -!- SIMILARITY: Contains 2 EF-hand calcium-binding domains.
 CC -----
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 CC -----
 DR EMBL; X97859; CAA66453.1; -.
 DR EMBL; X98288; CAA66934.1; -.
 DR EMBL; X98289; CAA66934.1; JOINED.
 DR EMBL; X98290; CAA66934.1; JOINED.
 DR EMBL; X98289; CAB94792.1; -.
 DR EMBL; X98290; CAB94792.1; JOINED.
 DR EMBL; D49549; BAA08497.1; -.
 DR EMBL; D83664; BAA12036.1; -.
 DR EMBL; D83657; BAA12030.1; -.
 DR PIR; JC4712; JC4712.
 DR PDB; 1E8A; X-ray; A/B=1-91.
 DR PDB; 1GQM; X-ray; A/B/C/D/E/F/G/H/I/J/K/L=1-91.
 DR PDB; 1ODB; X-ray; A/B/C/D/E/F=1-91.
 DR Genew; HGNC:10489; S100A12.
 DR MIM; 603112; -.
 DR GO; GO:0005829; C:cytosol; TAS.
 DR GO; GO:0005626; C:insoluble fraction; TAS.
 DR GO; GO:0005509; F:calcium ion binding; TAS.
 DR GO; GO:0006954; P:inflammatory response; TAS.
 DR InterPro; IPR001751; CaBP_S100.

DR InterPro; IPR002048; EF-hand.
 DR InterPro; IPR010983; EF_Hand_like.
 DR Pfam; PF00036; efhand; 1.
 DR Pfam; PF01023; S_100; 1.
 DR ProDom; PD003407; CaBP_S100; 1.
 DR PROSITE; PS00018; EF_HAND; FALSE_NEG.
 DR PROSITE; PS00303; S100_CABP; 1.
 KW 3D-structure; Antibiotic; Calcium-binding; Direct protein sequencing;
 KW Fungicide; Metal-binding; Zinc.
 FT INIT_MET 0 0
 FT PEPTIDE 77 91 Calcitermin.
 FT CA_BIND 18 31 EF-hand 1; low affinity (By similarity).
 FT CA_BIND 61 72 EF-hand 2; high affinity (By similarity).
 FT HELIX 2 18
 FT TURN 19 19
 FT TURN 24 25
 FT STRAND 26 27
 FT HELIX 29 39
 FT TURN 41 43
 FT TURN 45 48
 FT HELIX 50 60
 FT TURN 62 63
 FT STRAND 68 69
 FT HELIX 70 85
 SQ SEQUENCE 91 AA; 10444 MW; 325685EA8695F6B7 CRC64;

Query Match 73.0%; Score 189; DB 1; Length 91;
 Best Local Similarity 74.0%; Pred. No. 5.1e-16;
 Matches 37; Conservative 6; Mismatches 7; Indels 0; Gaps 0;

Qy 1 TKLEDHLEGIINIGHQYSVRVGHFDTLNKYELKQLGKELPKTLQNXKDQ 50
 ||||:|||||:| ||||| |||||:| ||||| |||| |::| ||:
 Db 1 TKLEEHLEGIVNIFHQYSVRKGFDTLSKGELKQLLTKELANTIKNIKDK 50

RESULT 5

S112_RABIT

ID S112_RABIT STANDARD; PRT; 81 AA.

AC O77791;

DT 15-JUL-1999 (Rel. 38, Created)

DT 15-JUL-1999 (Rel. 38, Last sequence update)

DT 05-JUL-2004 (Rel. 44, Last annotation update)

DE Calgranulin C (CAGC) (Fragment).

GN Name=S100A12;

OS Oryctolagus cuniculus (Rabbit).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.

OX NCBI_TaxID=9986;

RN [1]

RP SEQUENCE FROM N.A., AND PARTIAL SEQUENCE.

RC STRAIN=New Zealand white; TISSUE=Neutrophils;

RX MEDLINE=96355278; PubMed=8702688; DOI=10.1074/jbc.271.33.19802;

RA Yang Z., Devere M.J., Gardiner E.E., Devenish R.J., Handley C.J.,

RA Underwood J.R., Robinson H.C.;

RT "Rabbit polymorphonuclear neutrophils form 35S-labeled S-sulfo-

RT calgranulin C when incubated with inorganic [35S]sulfate.";

RL J. Biol. Chem. 271:19802-19809(1996).

CC -!- SIMILARITY: Belongs to the S-100 family.

CC -!- SIMILARITY: Contains 2 EF-hand calcium-binding domains.

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DR EMBL; AF091848; AAC61770.1; -.

DR HSSP; P80511; 1E8A.

DR InterPro; IPR001751; CaBP_S100.

DR InterPro; IPR002048; EF-hand.
 DR InterPro; IPR010983; EF_Hand_like.
 DR Pfam; PF00036; efhand; 1.
 DR Pfam; PF01023; S_100; 1.
 DR ProDom; PD003407; CaBP_S100; 1.
 DR PROSITE; PS00018; EF_HAND; 1.
 DR PROSITE; PS00303; S100_CABP; 1.
 KW Calcium-binding; Direct protein sequencing.
 FT NON_TER 1 1
 FT CA_BIND 8 21 EF-hand 1; low affinity (By similarity).
 FT CA_BIND 51 62 EF-hand 2; high affinity (By similarity).
 SQ SEQUENCE 81 AA; 9401 MW; 95E67A209180CB66 CRC64;

Query Match 52.5%; Score 136; DB 1; Length 81;
 Best Local Similarity 67.5%; Pred. No. 2.3e-09;
 Matches 27; Conservative 5; Mismatches 8; Indels 0; Gaps 0;

Qy 11 INIGHQYSVRVGHFDLTKYELKQLGKLPKTLQNKKDQ 50
 ||| ||||| ||:|||| |||:| |||:| ||| ||:| |||
 Db 1 INIFHQYSVRTGHYDTLSKCELKKLITTELVNTIKNTKDQ 40

RESULT 6

S109_BOVIN
 ID S109_BOVIN STANDARD; PRT; 122 AA.
 AC P28783;
 DT 01-DEC-1992 (Rel. 24, Created)
 DT 01-JUL-1993 (Rel. 26, Last sequence update)
 DT 05-JUL-2004 (Rel. 44, Last annotation update)
 DE Calgranulin B (Neutrophil cytosolic 23 kDa protein) (P23) (BEE22)
 DE (Fragment).
 GN Name=S100A9;
 OS Bos taurus (Bovine).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
 OC Bovinae; Bos.
 OX NCBI_TaxID=9913;
 RN [1]
 RP SEQUENCE.
 RC TISSUE=Oesophageal epithelium;
 RX MEDLINE=93280230; PubMed=8505358;
 RA Tang T.K., Hong T.-M., Lin C.-Y., Lai M.-L., Liu C.H.L., Lo H.-J.,
 RA Wang M.-E., Chen L.B., Chen W.-T., Ip W., Lin D.C., Lin J.J.-C.,
 RA Lin S., Sun T.-T., Wang E., Wang J.L., Wu R., Wu C.-W., Chien S.;
 RT "Nuclear proteins of the bovine esophageal epithelium. I. Monoclonal
 RT antibody W2 specifically reacts with condensed nuclei of
 RT differentiated superficial cells.";
 RL J. Cell Sci. 104:237-247(1993).
 RN [2]
 RP SEQUENCE OF 4-56.
 RC TISSUE=Neutrophils;
 RX MEDLINE=92304974; PubMed=1610833;
 RA Dianoux A.-C., Stasia M.-J., Garin J., Gagnon J., Vignais P.V.;
 RT "The 23-kilodalton protein, a substrate of protein kinase C, in bovine
 RT neutrophil cytosol is a member of the S100 family.";
 RL Biochemistry 31:5898-5905(1992).
 CC -!- SUBUNIT: Disulfide linked heterodimer of a 7/11 kDa and a 22/23
 CC kDa subunits.
 CC -!- SUBCELLULAR LOCATION: Cytoplasmic; loosely associated to the
 CC cytoskeleton.
 CC -!- TISSUE SPECIFICITY: Found essentially in phagocytic cells.
 CC -!- PTM: Phosphorylated by protein kinase C.
 CC -!- SIMILARITY: Belongs to the S-100 family.
 CC -!- SIMILARITY: Contains 2 EF-hand calcium-binding domains.
 DR HSSP; P06702; 1IRJ.
 DR InterPro; IPR001751; CaBP_S100.
 DR InterPro; IPR002048; EF-hand.
 DR InterPro; IPR010983; EF_Hand_like.
 DR Pfam; PF00036; efhand; 1.
 DR Pfam; PF01023; S_100; 1.
 DR ProDom; PD003407; CaBP_S100; 1.

DR PROSITE; PS00018; EF_HAND; PARTIAL.
 DR PROSITE; PS00303; S100_CABP; 1.
 KW Calcium-binding; Direct protein sequencing; Phosphorylation.
 FT NON_TER 1 1
 FT CA_BIND 19 32 EF-hand 1; low affinity (Potential).
 FT CA_BIND 63 74 EF-hand 2; high affinity (Potential).
 SQ SEQUENCE 122 AA; 13673 MW; F3CA8C48806BECDC64;

Query Match 51.4%; Score 133; DB 1; Length 122;
 Best Local Similarity 56.2%; Pred. No. 8.5e-09;
 Matches 27; Conservative 8; Mismatches 13; Indels 0; Gaps 0;

Qy 1 TKLEDHLEGIINIGHQYSVRVGHFDTLN KYELKQLG TKELPKTLQNXX 48
 ::| :| |||| |||||:|:| :| ||| ||| |:|
 Db 2 SQMESSIETIINIFHQYSVRLGHYDTLIQKEFKQLVQKELPNFLKKQK 49

10/665,867

Sequence alignment A

SEQ ID NO: 2

RESULT 4

AAW03563

ID AAW03563 standard; protein; 92 AA.

XX

AC AAW03563;

XX

DT 01-MAY-1997 (first entry)

XX

DE Calcium binding protein CAAF1.

XX

KW Calcium binding protein; bovine; amniotic fluid; S100 protein family;

KW intracellular signal transduction; squamous epithelial cell; neutrophil;

KW macrophage; cancer; cancerous lesion; inflammation; neoplasia; cervix;

KW squamous cell carcinoma; skin; oesophagus; CAAF1; lung; blood disease.

XX

OS Bos taurus.

XX

PN EP731166-A2.

XX

PD 11-SEP-1996.

XX

PF 04-DEC-1995; 95EP-00119045.

XX

PR 06-MAR-1995; 95JP-00045564.

PR 06-MAR-1995; 95JP-00070468.

XX

PA (TOFU) TONEN CORP.

PA (HITO/) HITOMI J.

XX

PI Hitomi J, Yamaguchi K, Yamamura T, Kimura T;

XX

DR WPI; 1996-403989/41.

DR N-PSDB; AAT39345.

XX

PT New human or bovine calcium binding protein and related nucleic acid - is

PT a marker for inflammation, neoplasia, skin and blood diseases.

XX

PS Claim 1; Page 21; 36pp; English.

XX

CC This sequence represents the CAAF1 calcium-binding protein isolated from

CC bovine amniotic fluid. CAAF1 belongs to the S100 protein family, which

CC includes calyculin, MRP8, and MRP14. Intracellular calcium ion

CC concentration is one of the key factors for intracellular signal

CC transduction. The calcium signals are transduced by various calcium-

CC binding proteins, such as the protein encoded by this sequence. CAAF1 is

CC normally expressed in squamous epithelial cells, neutrophils and

CC macrophages, but atypical epithelial cells are negative for CAAF1 and

CC overexpression is observed in several types of cancer cells and

CC neutrophils/macrophages infiltrating cancerous lesions. Detection of

CC CAAF1 (using antibodies in usual immunoassays) can be used to diagnose

CC (or monitor) inflammation, neoplasia (particularly squamous cell

CC carcinoma of the skin, oesophagus, lung and cervix), and skin and blood

CC diseases

XX

SQ Sequence 92 AA;

Query Match 88.8%; Score 230; DB 2; Length 92;

Best Local Similarity 92.0%; Pred. No. 2.9e-24;

Matches 46; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

Qy 1 TKLEDHLEGIINIGHQYSVRVGHFDTLNKYELKQLGTEPKTLQNXKDQ 50

|||||

Db 2 TKLEDHLEGIINIFHQYSVRVGHFDTLNRELKQLITKELPKTLQNTKDQ 51